



September 1989

COLORADO SPRINGS,
COLORADO

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.

P.O. Box 16521
Colorado Springs, CO 80935

FIRST CLASS MAIL



Ø BEAT



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The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at the Hewlett-Packard facility, at the intersection of Lexington and Union, at 7:00 p.m. All amateurs and interested parties are invited to attend.

Editor: Chris Smith NXØE, 12455 Donovan Lane, Colorado Springs, CO 80908 495-0624

MONTHLY CLUB MEETING

The next regularly scheduled meeting of the Pikes Peak Radio Amateur Association will be held at the Hewlett Packard facility at the intersection of Union and Lexington Boulevards. Detailed directions may be obtained from any Board member. Please note that the meeting time is at 7:00 pm (1900 hrs). This month's meeting will be on 13 September 1989.

This month the program is tentatively scheduled to be on Electromagnetic Pulse (EMP).

NOVICE CLASSES SCHEDULED

The time and place of the Fall Novice classes were announced by the Education Committee chairman, Bud NØDDF. Classes will be held Wednesday and Friday nights beginning September 20, at 7:00 pm. They will normally last two hours.

The location is the Sand Creek police substation, located a block south and a block east of Fountain and Academy.

Classes are free though students are expected to acquire a current copy of the ARRL Novice License guide if they don't have one.

Prospective students should contact Bud at 475-0537 for information and registration.

"THE VIEW FROM FINDLAY"

by Jim Sorrells

Flat (elevation ? above sea level), green, hot, humid, a long way from the Peak, and employed.

Other than the above, Findlay, Ohio is a good place to live. The natives are friendly, and there are few restrictions on towers and antennas.

The Findlay Radio Club is very active with approximately 100 members. They have their own club house with a well equipped station, multiple towers and antennas, and repeaters on 2 meters and 440 Mhz. These "goodies" are made possible from the profits of their annual September swapfest. The swapfest is held at the county fairgrounds. Due to the high population density, they reportedly draw crowds of 4000 to 5000 and multiple commercial dealers from Ohio and the surrounding states.

The Findlay 2 meter repeater has a range of 25 to 30 miles. The antennas are on the club's 175 foot tower. They are not blessed with the natural antenna supports (mountains) which abound in Colorado. But the repeater sounds great, has a good autopatch, and serves the Findlay community well. Two meter mobile simplex coverage is about 5 to 10 miles with lots of lush vegetation and trees to soak up the RF.

Findlay's big boom came in the 1890's as a result of gas and oil wells. Marathon Oil's home office is located here. The town population is near 40,000 and, if you believe the local chamber of commerce, should reach 100,000 by the end of the century. Main Street runs North and South through the town. It nostalgically reminds me of my hometown as a young boy in the 40's and 50's. There are numerous small specialty shops and businesses downtown. Findlay has one little shopping mall which is expanding, but the downtown is still thriving and does not have the "ghost town" look and feel that is common in many small towns and cities.

Despite the differences, the "view" from Findlay is pleasantly similar in many ways to the "view" from the Peak. A wonderful thing about our hobby is that no matter where you go, you have instant friends. The hams in Findlay are much like those in Colorado Springs--A nice bunch of guys and YL's. Although we do miss the natural beauty of Colorado and our many friends there, Findlay, too, has its own special beauty and special people. 73's till we meet again--a much smaller place because of ham radio.

73 Jim Sorrells WA9ABB

"THE VIEW FROM THE PEAK"

by George Hinds, N8CIX

Imagine tossing a party - and nobody came? Your house on fire - and no firemen were on hand? Getting a call from Ed McMahon - and telling him you weren't interested? CALLING A "SKYWARN" ALERT - AND NOBODY RESPONDS?

The first three are purely hypothetical (and rather far-fetched) - but it seems that the fourth eye-opener above may become a distinct possibility around Colorado Springs in the not-too-distant future unless...

A recent very heavy rainstorm and the resulting SKYWARN callup saw a very small response; certainly not the response necessary to do the job in the fashion desired by the weather people. Certainly not the type of whole-hearted ham radio performance common a couple of years ago. Net control called for check-ins; then, when a mobile station promptly called in to offer his service, that station was ignored...

I happened to be at home in Woodland Park during an incoming SKYWARN weather situation not long ago. Very heavy rain, then pea to marble-sized hail, fell. The final accumulation was almost 1" deep on the front deck.

Though I've served a long stint in past years as a weather spotter and SKYWARN net control with NWS in Ohio, I reluctantly decided I'd better NOT get on the air to call in the storm beating down upon our town, remembering the item that appeared in O-Beat in March this year about the NWS only heeding weather reports from those who attend training classes - I had failed to attend... so perhaps I'd be scorned and turned away when my call didn't appear on that magic list of the learned and storm-wise... As the storm increased, I was trying to call NWS by phone - did you ever try that for Colorado Springs? You can't get there from here! Endless ringing - or a tape recorded message; they don't want to be disturbed by weather reports from the common folk? Or perhaps they magically sensed the caller was among the unwashed and unwise who failed to attend their teachings this time around?

I then called the FAA at the airport - the folks in the Flight Service Station surely would take a report and relay it? Oh, yeah! How about more recordings? You got it - you can't get there from here, either - at least not easily.

So there I was - in the middle of a severe storm (1" of hail plus tons of water) - allegedly not meeting the criteria required to make a weatherspotters report via ham radio, and no one answering at NWS or FAA to speak to on the phone! I gave up.

(continued on p. 4)

It didn't take long to come to the conclusion that one who has been arbitrarily determined to be "untrained" but is up to his ears in wind, rain and hail and ready to tell the powers that be about it occurring, might better just relax and "let George do it" - but not this George!

73, George Hinds

DITS AND BITS

O-Beat allows amateurs to place free non-commercial ads and announcements of interest to local amateurs on a space available basis. O-Beat will try to insure accuracy in printing but cannot guarantee it.

FOR SALE

Kenwood TR2600A with manual, Tokyo Hi-Power 2W in - 30W out 2 m amplifier, 9 amp power supply, speaker mike, 9.6 volt power pack for mobile use, battery and charger, MFJ quarter wave antenna, all perfect condition for \$320.00. Call Will NOHRD at 471-8527.

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National NC-300 Receiver with booklet and speaker. Good condition. \$70 or best offer. Call George Beauchamp Sr. WD0K at 635-8758.

TECH TIP by KD0SO

If you find your frequentl replacing that 12 volt indicator lamp because the supply you run is 13.6 volts and you can't find a 14 volt replacement, here is a tip to lower frequency of lamp loss. A diode will cause a .5 to .6 volt drop, when in series with a DC circuit. Two of them can mean a 1.2 volt drop. This will insure a correct lower level in the lamp supply circuit. Remember however, you are going to string two (or more), diodes together, in series. Therefore you should add balancing resistors across the the diodes. See ex. A



ex. A

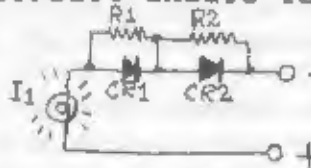
So what should the value of the resistors be? At least four times the peak voltage is;

13.6 volts

X 4

54.4 ohms (minimum)

Remember to put the anode of the diode, to the plus or input side of the voltage source. Our circuit should look like; ex.B



ex. B

73's from KD0SO

FOR SALE

Daiwa RM-940 Infrared ray remote microphone. Currently wired for Drake TR-7 - may be rewired for other rigs. Mike nicads in good shape & will include spare set. \$25 - Call Chris NX0E at 495-0624.

WDOK - 40+ YEARS IN HAM RADIO

By S. K. Smith KA7NNX

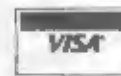
On August 24, 1988, George D. Beauchamp, Sr., WDOK, received his 40 year pin and certificate from ARRL Headquarters. His membership goes back to 1944 and he is well on his way to 50 years.

On April 17, 1989, George received his DXCC (DX Century Club) Certificate, number 28,613, for 101 countries confirmed in the mixed group. He has about twelve additional confirmations with a number of additional countries, for which he is waiting QSL's. For example, George made two contacts with China and is hoping to get a confirmation. Now he has 92 confirmations for the 10 meter DXCC Certificate and if he receives QSL's for new countries worked on that band, he will have DXCC on 10 meters.

George made one 10 meter DX contact with Helen Barker, VR6HT, on Pitcairn Island, September 12, 1988. Her QSL was received in a First Day issue envelope with a commemorative letter on "Mutiny of the Bounty."

George is presently using a rotor control, CDE Model AR22B, for use with the AR-1, AR22AR22R, and AR10 Rotors. The rotor control has points in it that are not long for this world, George commented. By touching them up with a file, he is keeping it in use. George recently acquired an Alliance Tenna Rotor, Model U98, that works on the same principle as his present control. Both have 4 connections and this latest rotor seems to be in excellent condition. He is curious to know if this last control could replace the CDE Control that he is now using, and would appreciate any advice readers could give him.

-KA7NNX



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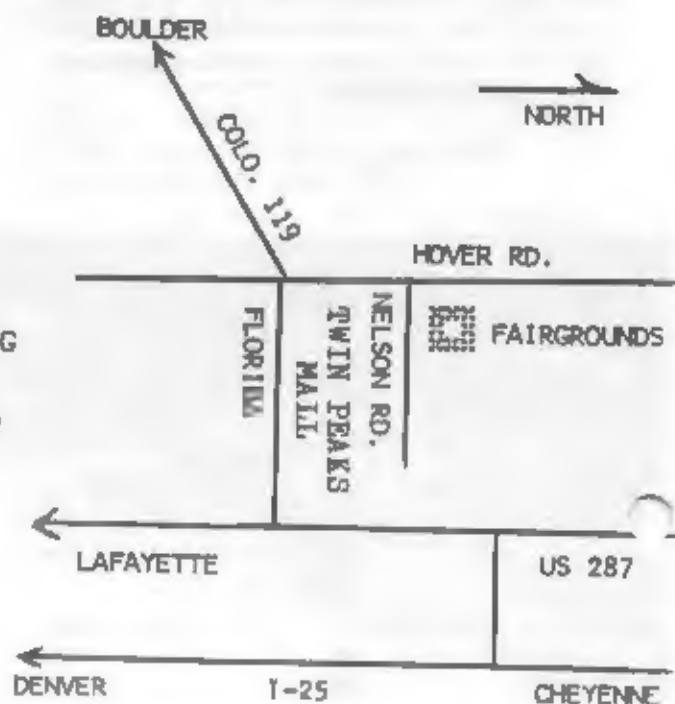
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6



INTRODUCTION TO PACKET RADIO - PARTS 6 & 7

by Larry Kenney, WB9LOZ

When checking in to a BBS for the first time, you should become familiar with the commands available to you. Each BBS or mailbox is a little different from the next, so read the introduction carefully and follow the directions. If you don't know what to do next, enter H for the HELP instructions. Make note of the command letters, enter only one command at a time, and make sure you enter them correctly. Computers are not very forgiving and expect things to be entered in proper form. Take your time, check out the features that the particular BBS or mailbox offers and enjoy yourself. There's no need to feel rushed or intimidated. If you get to a point where you don't know what to do next, don't give up and disconnect, enter H again for HELP. That's what it's there for! I suggest making a printer copy of the complete help file so that you have it available as a reference when using a BBS.

Now let's go through the basic procedures you should follow when checking into a BBS. When you receive the welcoming message, you'll note that the last line ends with a >. This is known as the prompt, and is where you enter the command you want performed next. If there are personal messages addressed to your call, the BBS will list them for you following the welcome message. Note the message numbers.

At the prompt, the first thing you should always do is list the new messages, by entering L. The BBS program updates the user file each time you check in, logging the latest message number. The next time you check in, only new messages that have been received by the system will be included in your list. The first time you'll receive all of them, since they're all new to you. This list can be very long, as many systems have more than 200 active messages on line. When you receive the list, note the numbers of the messages you're interested in reading.

Next, read the messages you're interested in. You do this by entering R XXXX, where the Xs represent the message number, such as R 4521. Note that there is a space between the command and the number. It's best to have your buffer or printer turned on when reading messages, because they're apt to come in faster than you're able to read them. You should have a means of saving them for reading later after you've disconnected. If there were messages addressed to you, you should erase or "kill" them once you've read them. You can do this with the "KM" command, which means "Kill Mine". This command will erase all messages that

are addressed to you that have been marked as having been read. You can also kill each message individually by entering K XXXX, where the X's are the message number.

Once you've read all the messages you're interested in, you have several options. You can look back at old messages, send messages to other stations, see what's available in the files section, download a file, upload a file, check the list of stations that have recently checked in to the BBS or stations that have been heard on frequency, monitor other frequencies used by the BBS, use the gateway feature (if available), check the status of the BBS tasks, or a variety of other things. In part 5 we'll cover some of the other BBS commands. In the mean time, the help file of the BBS should give you all the information you need to try any of the functions mentioned above. Enjoy!

PART 7

In this part of the series, I'll explain how to use the various BBS commands that you have available to you. This information is based on WORLI software, so it might vary slightly for users of AA4RE, WA7MBL, or other type systems. Use the H - HELP command on your BBS if some of these commands do not work as described.

LIST COMMAND: The first thing you should do when logging on to a BBS is to use the LIST command. There are many variations available, but L, by itself, is the one used most often. L (List) - Lists all new messages, except other user's personal messages, that have been entered since you last logged in. If you want to list specific messages, you can use one of the following variations of the L command: Lx - Lists all messages of the type designated by 'x'. Example: LB will list all bulletins. L* - Lists messages back to and including number *. Example: L 4050 will list all messages, except personal messages to others, from the latest one back to *4050. LL* - Lists the last * messages. Example: LL 15 lists the last 15 messages received at the BBS, excluding other's personal messages. LI - Lists ALL non-personal messages. L> callsign - Lists all messages TO callsign indicated. Example: L> N6XYZ L< callsign - Lists all messages FROM callsign indicated. Example: L< N6XYZ L@ designator - Lists all messages that have that "designator" in the @ BBS column of the message header. Example: L@ ALLCAN will list all messages with ALLCAN in the @ BBS column.

READ COMMAND: To read a message, you enter R followed by a space then the message number. Example: To read message 5723, you'd enter: R 5723. You also have the option of using the RH command.

[continued on p. 9]

DRC MEMBERS IN FCC RDF TEST

By Don Bishop N0EA

[Ed Note: The following article was received courtesy of Edie Sheffield, KA0MQA for inclusion in O-Beat and other local ham publications.]

In early June, the FCC called upon Denver Radio Club members Karen (KA0CDN) and Glenn (W0JUR) Schultz to help test high-frequency (HF) radio direction-finding (RDF) equipment.

Karen and Glenn received a telephone call from FCC engineers in California who were participating in a test of interferometer RDF equipment made by Zeta Laboratories of San Jose, California.

"The caller scheduled a time for a five- or 10-minute test," Glenn said. "Karen operated the station. It was around noontime, and the frequency band was 15 meters, as I recall." Glenn said he thought his and Karen's participation in the American Radio Relay League (ARRL) field organization had something to do with their selection for the test. The two serve as official observers and as coordinators for the official observer program. The ARRL provided the FCC with a list of amateurs living near selected major cities.

John Hudak, chief of the signal analysis branch with the FCC's field operations bureau, explained the test. He said the interferometer the bureau was testing has some advantages: "For example, it uses small area, it is a simple array, and its makers claim it has high accuracy," Hudak said.

Current FCC HF RDF equipment installed at monitoring stations is fixed and covers considerable land area that must be made flat. The interferometer is less sensitive to terrain that is not flat. The RDF equipment Zeta makes is "deployable," meaning it can be moved readily from one site to another.

"The Zeta equipment was targeted to the military, which might want to set up quickly for RDF. The Zeta employees came in one afternoon and set up in a half-hour or an hour."

In addition to measuring azimuth, the interferometer measures elevation, "although you have to use an atmospheric sounder with it to DF (direction-find) with a single-site system," Hudak said. The sounder sends a signal straight up and measures the time it takes to return to earth from the ionosphere, thus determining the distance to the refractive atmospheric layer.

Because the interferometer measures the elevation angle of the arriving radio signal of unknown origin, it is possible to calculate the distance to the signal source. "The accuracy still isn't as good as

triangulating," Hudak said, "but it is just another factor that can help improve accuracy. In those cases where you hear the signal at only one monitoring station, the ability to calculate the distance to the source puts you in the ballpark."

Hudak said that if the signal arrives via multiple "hops," i.e., by refracting more than once from the ionosphere and reflecting one or more times from the earth, the distance calculated with the use of the interferometer "probably is not going to be accurate at all."

Whether the signal arrives by one hop or multiple hops is determined to a certain extent by the frequencies involved and the time of day, Hudak said. The more experienced the RDF equipment operator, the better the interpretation.

He said amateur radio operators were selected for the tests because what were needed were "unknown targets": signal sources whose origins were unknown to FCC operators. "If you get standard signals you know will be on the air, the operator has some bias in knowing where the target is. We needed targets no one could identify by frequency and where they were at. The amateurs offered a ready source of signals at short notice and agility of frequencies and times that made them ideal," he said.

The test also made use of some government stations and some foreign stations. "In those cases," Hudak said, "we weren't able to get up special signals for us, but we tried to pick out ones that are less readily recognized."

The results? "The test set we ran compared favorable to direction-finders we presently have," Hudak said.

AFA RADIO CLUB MINUTES

The meeting was on August 9 at 1130 at the golf course snack bar. Six members were present, Lee KB0HW, Faylene KB5FTN, Floyd KB5FCN, Ron NK0P, Al N0CMW and Bud N0DDF.

Andy Freeborn N0CCZ (598-8323) needs help with transportation from the airport to the Marriott and Academy for all the conferees at the networking conference on October 7 & 8. The Academy club is working with the Cadet club on this.

Doug is working on finding a place for a club HF station.

There being no further business, the meeting was adjourned. The next meeting will be held at the same time Tuesday, 12 September (the day prior to the PPRAA meeting).

Note: All civilians working on base and all military, active or retired, may join the Academy Radio Club.

- N0CMW

- Packet Radio - *continued*

which will give you all of the forwarding headers in detail, rather than just giving you the path. Example: To read message 5723 with the full headers, you'd enter RH 5723. There is one other version of the READ command, and that's RM. Entering RM by itself will give you all of the messages addressed to you that have not yet been read.

ERASING MESSAGES: Once you have read a personal message, please erase it. The sysop will appreciate your help in clearing up "dead" messages. You use the K - KILL command to do this. You can enter K *, such as K 5723, which will erase that particular message, or you can enter KM, which will erase all of the personal messages you have read. If you use the KM command, the BBS will list the message numbers for you as they're killed.

THE DUAL PURPOSE "S" COMMAND: S (Status) and (Send) - The letter S by itself will give you a reading of the BBS status, showing the callsigns of stations using the system, the time they connected, the port used, etc. It also shows information on the message and user files.

The "S" command is also used for sending a message, but it must be further defined. There are three types of messages found on a packet bulletin board system: Personal, Bulletin, and Traffic. "SP" is used for sending a personal message to one other station, "SB" for sending a bulletin, and "ST" for sending a message that's going to be handled by the National Traffic System.

You're able to send a message to one particular person, to everyone on the local BBS, to everyone at every BBS and mailbox in Northern California, in Southern California, in the entire state, or all across the entire country. It all depends on your addressing.

At the BBS prompt you enter the appropriate command (SP, SB, or ST) followed by a space and then the addressee. The addressee can be a callsign or it can be something of a general nature, such as ALL, QST, ARES. Examples: SP WB9LOZ SB ALL. All commands, of course, must be followed by a <CR>.

If you wish to send the message to someone at another BBS, you have to indicate the call of the other BBS following the call of the addressee. For example, to send a message to N5PQ, who uses the W5XYZ BBS, you would enter: SP N5PQ @ W5XYZ.

- WB9LOZ

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MINUTES OF AUGUST GENERAL MEETING

submitted by AI NOCMW, Secretary

The general meeting of the Pikes Peak Radio Amateur Association was held at the Hewlett - Packard Briargate Facility, Wednesday evening 9 August 1989. The meeting was called to order by the president Rick WB7THT at 19:00.

The minutes of the previous General Meeting and Board meeting were approved as printed in O-Beat.

Committee Reports

Note: Please contact the chairman at the phone number listed if you can help out on any of these committees.

Treasurer - Ron NK0P (593-8352):

The treasurer's report was given by Ron. The club checkbook balance was \$2,254.24, expenses this month were \$200.13 and income was \$336.00, for a balance of \$2391.11.

Interference - Ron NK0P (593-8352):

Neither Ron nor apparently any other local hams have caused any of late.

Education - Bud N0DDF (475-0537):

Classes will start this September. Time and place are to be announced.

Publicity - Karen N1FED (495-0091):

Would whoever got the XXL size state games shirt please return it for exchange, it was supposed to be reserved for someone else. If anyone got photos of the state games, they are needed for use for a QST article. The third order for coffee mugs is not yet in.

Colorado Council of Amateur Radio Clubs (CCARC) - Oak K0ROL (635-2289):

There is nothing new to report.

Deaf and Blind School - Bud N0AA (689-2983):

Things are waiting for the school to reopen.

ARES - Cliff KB0CVW (597-7334):

From Fred KA0WIE for Cliff: The meetings will be held on Friday nights at 8 pm in conjunction with the NTS traffic net. Note if you send a message to another BBS be sure to include city and state, since the location of the BBS may not be known locally.

Public Service - Mike K0TER (636-1290):

Mike thanked all who helped out with the State Games and Tripoli rocket launch. He still needs some help with the Volks walk on September 9 - 10 at the AFA, and the Hard Scrabble Bike event on September 16. Once again, help will be needed for the Teller County Hill Climb October 7 and 8; contact Doc W0MCT or Mike W9MHL for this one.

VE Testing - Max KD0EL (488-9289):

Next test will be this September 16th at Chapman College, at the corner of Flintridge and Academy. This test will be **closed to walk-ins**, so register with Max if you want a place at the exam.

Picnic Malcolm KE9S (488-2071):

Thanks to all who attended. Paul, N0KIA won the raffle, congratulations. Now is the time to think of next year's picnic.

Old Business

Nothing to report.

New Business

Andy Freeborn N0CCZ (598-8323) announced the ARRL Network Conference at the AFA on October 7 and 8. Contact him for registration or information. (On Saturday the conference will be at the AFA, on Sunday it will be at the Marriott Hotel.) Rick WB7THT announced that next year's swapfest will be on May 19 at the Rustic Hills Mall. It's hoped that Icom will be there with C.W. Electronics, Miley's Radio and others. Now is the time to begin planning for it. Chris NX0E will be giving up the editorship of O-Beat after the October issue, and we will need a new editor. *[Ed note: Ron NK0P has graciously volunteered. He will need the help and support of all members.]* Fred KA0WIE announced that there is now a O-Beat area on his BBS for use in submitting O-Beat material. Be sure to send a carriage return after each line. We need a chairman for the Christmas party. The club trailer is back at Pete's (N0LA) QTH. The Board is looking for a new meeting place but is not expecting loss of the HP facilities right away. **Do not forget the elections which will be held at the October meeting.**

Prizes:

After a short intermission, the drawings were conducted by the "Doug and Floyd Show." The following won prizes:

KA0WIE	Fred	Surge Block
N0JLF	Jeff	Repeater Book
W8JTD	Fred	Two free meals at Villiage Inn
AH6GP	Irene	Antenna Wire
K0NC	Les	Antenna Book
NK0P	Ron	Log book and Coax seal

Program:

The program was given by Mike Odell on spread spectrum communications. It was enjoyed by all.

The meeting was adjourned at 2045. The next meeting will be on September 13 at 1900 hrs at the HP Briargate Facility.

-NOCMW

MINUTES OF THE AUGUST BOARD MEETING

submitted by AJ NOCMW

The Board meeting was held on 14 August 89 at the QTH of Ron NKOP. In attendance were AJ NOCMW, Bud NODDF, Doug NOHJT, Max KDOEL and Ron NKOP.

It was decided to move the meeting place to the Elk's Club on North Nevada Avenue providing all the details can be worked out. The October meeting will be held there if it works out. An announcement will be made at the September meeting (and reported in O-Beat) about the location of the October meeting.

Bud NODDF is setting up the club's education program. He is planning for a class to start on September 20, time and place to be announced. The board authorized Bud to buy a new Novice guide and other materials as needed. We are in need of an overhead projector for the classes (see item in Dits and Bits). Bud will need the support of the club membership to make these classes a success.

We did not receive any bids for the club's propane generator.

Max KDOEL mentioned again that the VE exam this September will not allow any walk-ins. Preregistration is required.

Chris NXOE was authorized to buy new layout boards for O-Beat. In addition, prizes were authorized to be awarded for the best O-Beat articles, as an incentive for more articles to be submitted.

Doug NOHJT (488-0559) graciously volunteered to head the election nomination committee. Anyone interested in a position please contact him. *This is your club* - if you know of anyone too timid to volunteer their own name for election, do it for them!

The meeting adjourned at 2115 but the board remained until about 2115, swapping war stories.

-AJ NOCMW, Sec.

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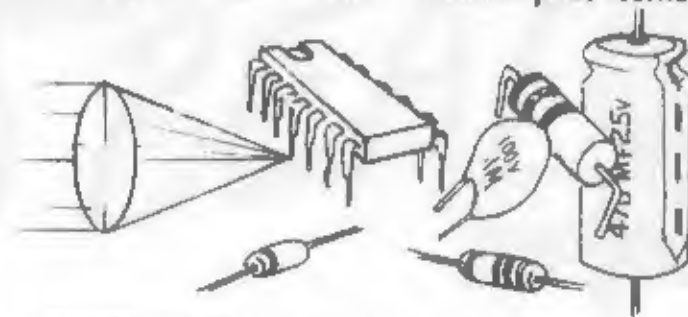
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